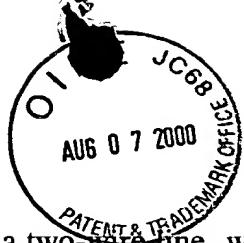


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ABSTRACT

A method of bi-directional data transmission over a two-wire line, where digital data destined for transmission or reception are modulated or demodulated as appropriate using discrete multitone modulation and separated by time-division multiplexing. The appropriate multiplex time is subdivided into a predetermined number of time slots N, and a number of those time slots K are assigned exclusively to one direction of transmission, for example, low data rates in an upstream transmission. The remaining time slots N-K are assigned exclusively to the other direction of transmission, for example, high data rates in a downstream transmission. Preferably, the predetermined number of time slots N is much greater than the number of time slots K.